

PNEUMATIC PIN CLAMPS

Pneumatic pin clamps are typically designed for centring and clamping metal sheets in BIW underbody applications.

UNIVER offers a wide range of models with standard or high compensation, with 180° orientable hook, with vanishing pin and hook, with compact dimensions or with horizontal shape to fit applications where installation space is reduced.

All pin clamps are equipped with:

- Integrated compensation
- Metal scraper
- Toggle-joint mechanism
- High wear resistance steel pin
- M12 electronic sensor



UNICLAMP
next generation

MILLIONS OF CYCLE

Millions of operations granted with no maintenance required



QR CODE

Helps identify products quickly and easily



LIGHTWEIGHT

Housing in aluminium alloy



REDUCED DIMENSIONS

Compact end caps



CUSTOMIZATION

Specifically designed for every application:
sizing of hook and pin
sizing of the clamping surface



IRREVERSIBLE

A toggle-joint mechanism maintains the position even with air lack





STANDARD CONSTRUCTION

Pneumatic pin clamps available in different versions, according to compensation range and possibility to select the hook orientation

- Standard compensation Ø32 - 50
- High compensation Ø63
- Orientable hook Ø50 - 63
- Manual size 50

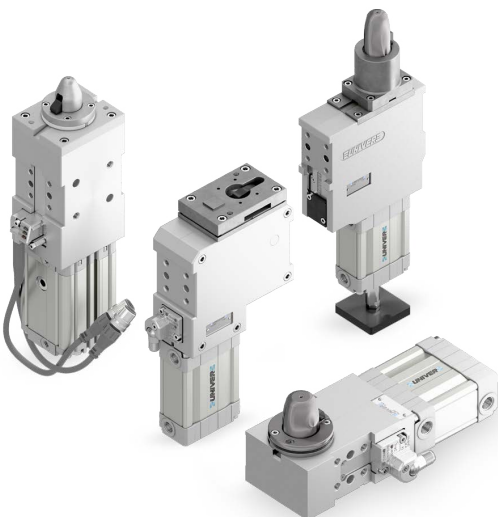


COMPACT CONSTRUCTION

Compact Pin Clamp with retractable clamping fingers or single/double hook for centring and clamping.

The compact and lightweight construction makes these units suitable for mounting on grippers for handling pieces through a centring hole

- Compact with clamping fingers Ø40
- Compact with single or double hook Ø40



SPECIAL APPLICATIONS

To complete the range of pin clamps, UNIVER offers many special models to fit special applications

- Laser beam applications Ø50
- Vanishing pin and hook Ø50
- Horizontal shape Ø50
- Vanishing hook Ø50

PIN CLAMPS FEATURES

STANDARD VERSION

STEEL PIN WITH HARDENING TREATMENT

Special steel to guarantee high wear resistance

HOOK TRANSLATION

No friction on the meal sheet



DOUBLE METAL SCRAPER

Protecting the internal mechanism from dust and welding debris



INTEGRATED COMPENSATION

Allows clamping of different thickness up to **6 mm**

OPTICAL SENSOR

High precision system
No adjustment required

TOGGLE-JOINT

Irreversible without external stops

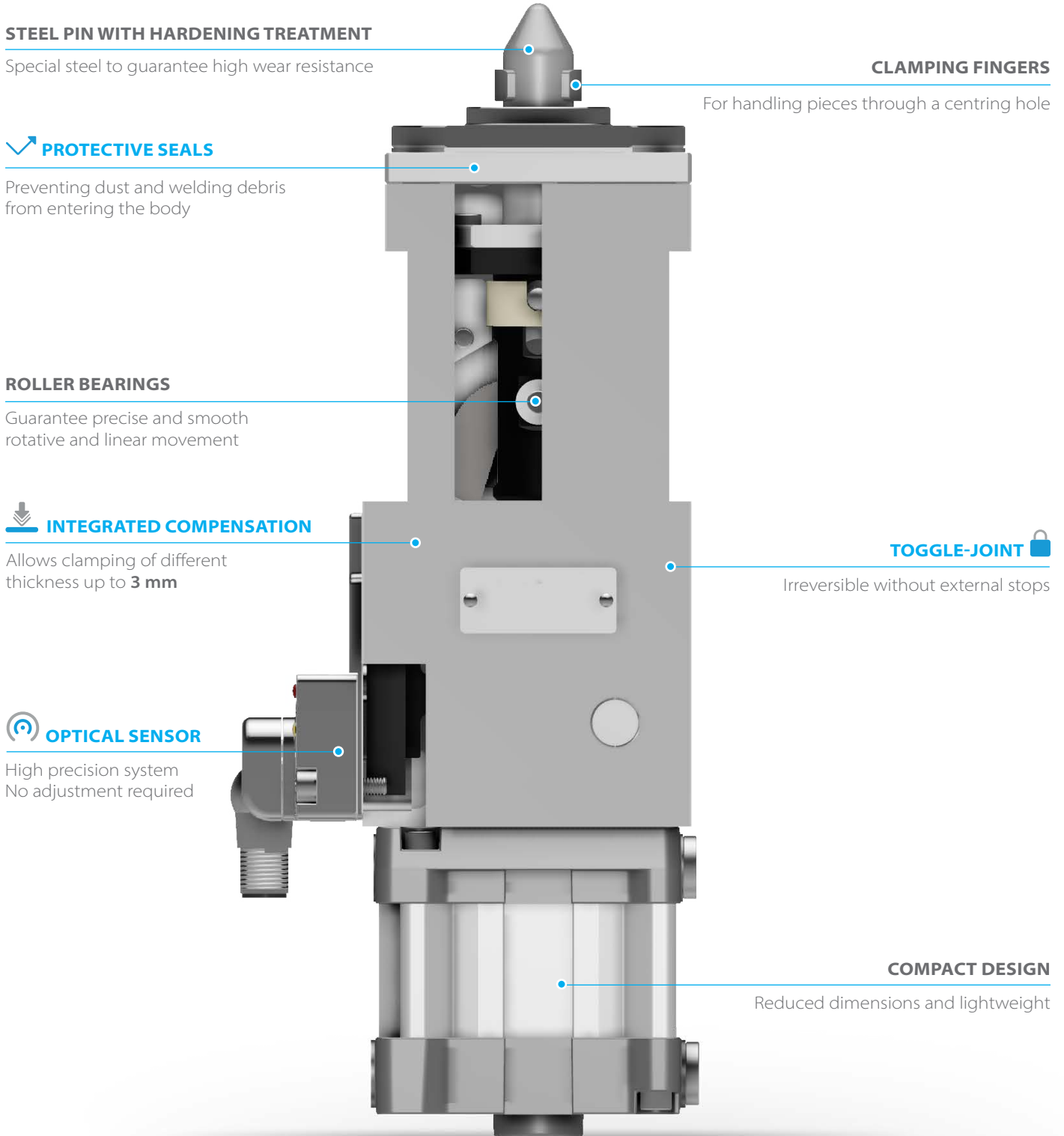
ROLLER BEARINGS

Guarantee precise and smooth rotative and linear movement

COMPACT DIMENSION

Reduced end caps

COMPACT VERSION WITH CLAMPING FINGERS



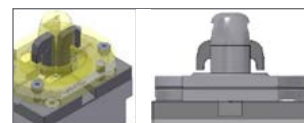
PIN CLAMPS FEATURES

COMPACT VERSION WITH SINGLE/DOUBLE HOOK

SINGLE HOOK



DOUBLE HOOK



STEEL PIN WITH HARDENING TREATMENT

Special steel to guarantee high wear resistance

DOUBLE ROD SCRAPER

Double rod scraper for each single hook

HOOK TRANSLATION

No friction on the meal sheet



INTEGRATED COMPENSATION

Allows clamping of different thickness up to **3 mm**

TOGGLE-JOINT

Irreversible without external stops

OPTICAL SENSOR

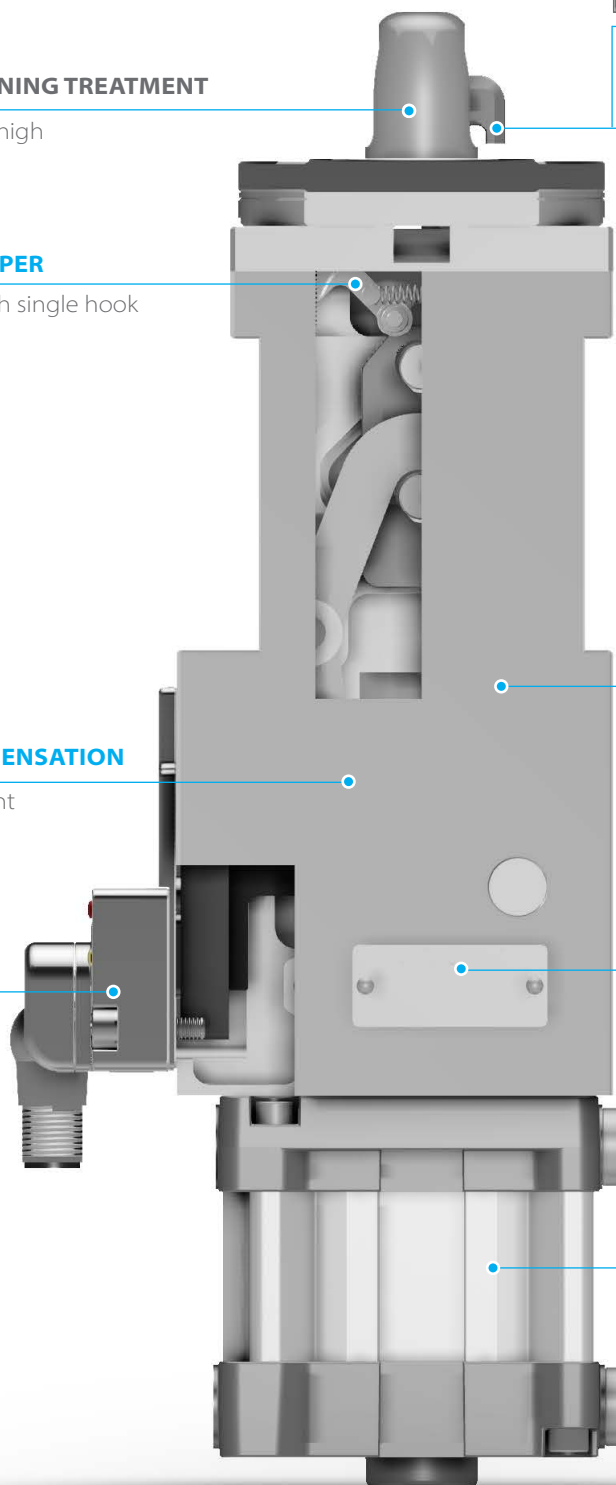
High precision system
No adjustment required

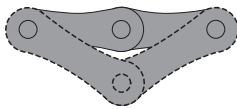
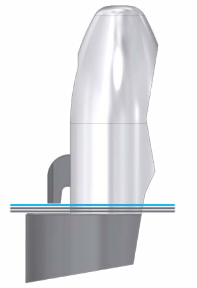
ROLLER BEARINGS

Guarantee precise and smooth rotative and linear movement

COMPACT DESIGN

Reduced dimensions and lightweight





INTEGRATED COMPENSATION

The original UNIVER integrated compensation systems allows to compensate metal sheet thickness variations up to **6 mm**

TOGGLE-JOINT MECHANISM

The original UNIVER toggle joint system allows the pin clamp to maintain the position even with lack of air without external stops

Position repeatability

No backlash in closed position

OPTICAL SENSOR

Fully metal body

One single sensor for the whole range of products

IP67 protection

M12 swivel connector (0-90°)

High precision

No set up

Two-parts design: electronic part outside the unit (available as spare part), optical part inside the unit (no touch point)

Insensitive to high magnetic fields, typical of new and modern welding systems like aluminium welding

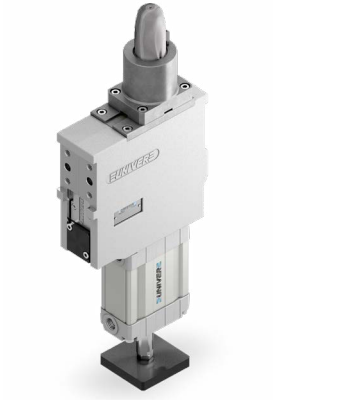
Industry-recognized, tested and proven sensor

DOUBLE METAL SCRAPER

UNIVER original system with double metal scraper to prevent dust and welding debris from entering the internal body

The two scrapers follow the hook movement and thanks to some dirt elimination slots on the clamp plate the dust cannot enter the body thus avoiding affecting negatively the internal mechanical parts

PIN CLAMPS FOR SPECIAL APPLICATIONS



PIN CLAMPS FOR LASER BEAM APPLICATIONS

Pin clamps for laser beam application are specifically designed for applications where the detection of the position is done by a laser beam instead of a position sensor



PIN CLAMPS WITH VANISHING HOOK AND PIN

In these special pin clamps there is no need to raise and lower the metal sheet during positioning operations thanks to the vanishing hook and pin



PIN CLAMPS WITH VANISHING HOOK

They are specifically designed for applications where large pins are required. Furthermore, the wide movement of the vanishing hook is perfect in case pretty shaped metal sheets are to be clamped



PIN CLAMPS WITH HORIZONTAL SHAPE

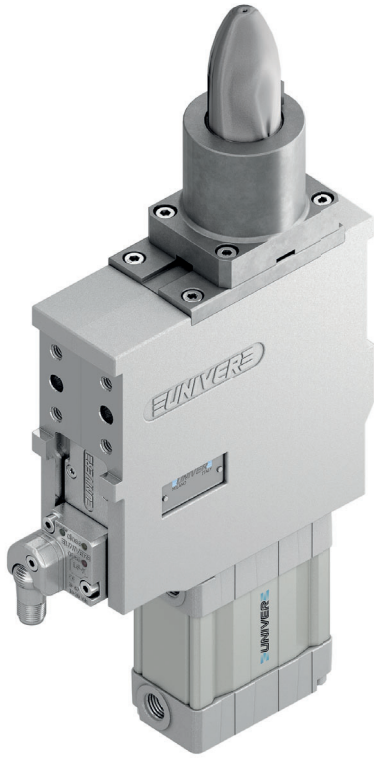
Thanks to its flat shape, this pin clamp is recommended for and easily fits applications where the installation space is very small

USP 50

Pneumatic pin clamp Ø50 mm

Pneumatic pin clamps mainly designed for centring and clamping metal sheets in BIW underbody applications.

- Integrated compensation up to 2,3 mm
- Double metal scraper for protection against dust and welding debris
- Toggle-joint mechanism
- High repeatability
- High wear resistance steel pin
- Electronic sensor
- Available version with plate machined from solid (no shimming)



CHARACTERISTICS

Operating temperature	5° ÷ 45° C
Min./Max. Operating pressure	0,4 / 0,6 MPa
Bore Ø	50 mm
Clamping force	3500 N
Weight (without plate, pin and hook)	2,9 kg
Pneumatic supply ports	G1/4 on both sides
Sensor	electronic (optical)
Supply voltage	10 ÷ 30 Vdc
IP code	IP 65

CODIFICATION KEY

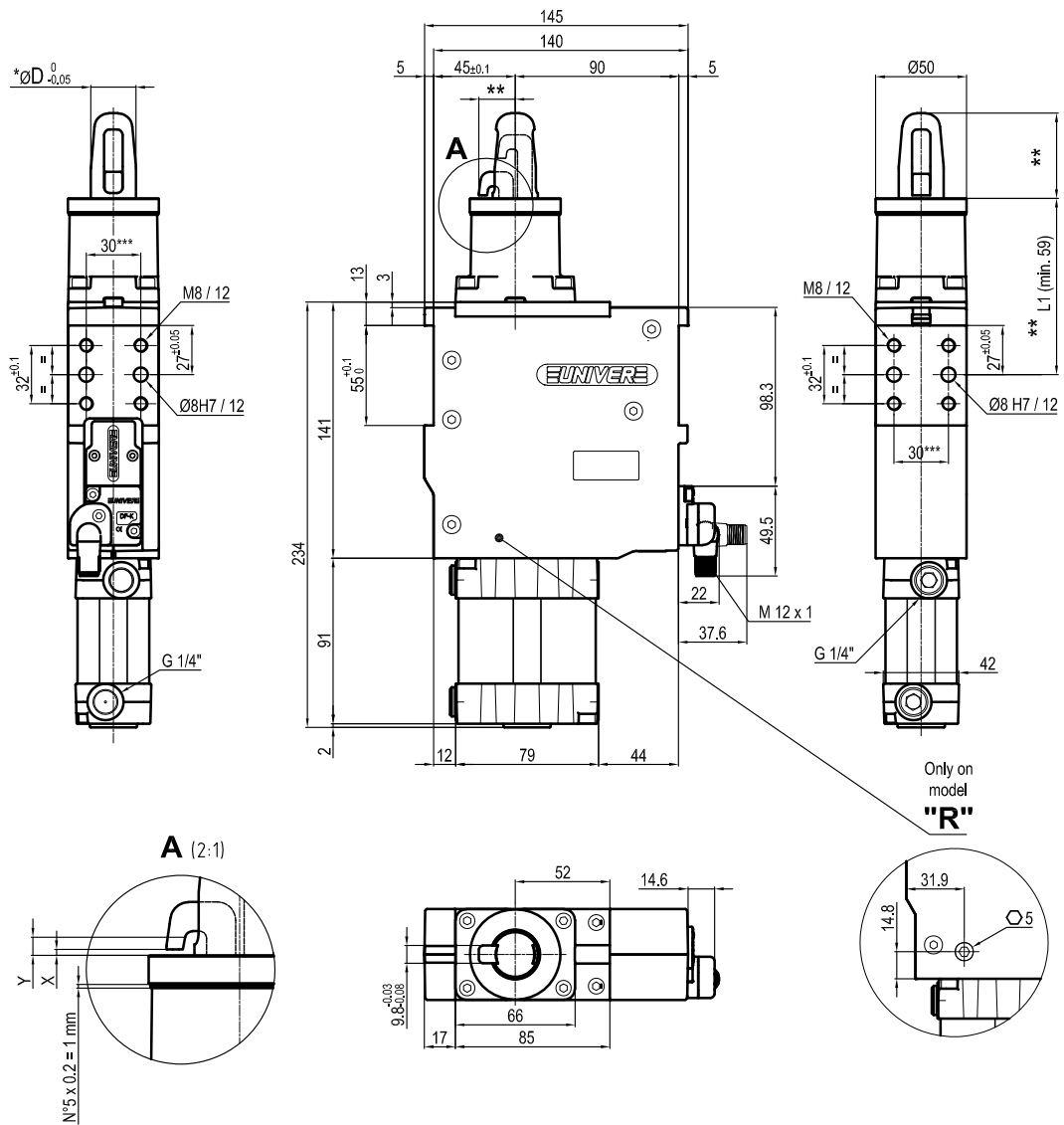
US | P | 50 | J | 3 | 1 | - | K | 0 | | |

1 2 3 4 5 6 7 8 9

- IRREVERSIBLE
- LIGHTWEIGHT
- COMPENSATION
- METAL SCRAPER
- OPTICAL SENSOR
- HIGH REPEATABILITY

- 1** SERIES
US = UNICLAMP Pin clamp with compensation
- 2** VERSION
P = Pneumatic
- 3** SIZE
50 = Ø50 mm
- 4** MODEL
J = Standard
R = With mechanical locking/unlocking device
- 5** PIN DIAMETER
1 < = Ø18 mm
2 = Ø20 mm
3 = Ø25 mm
4 = Ø30 mm
5 = Ø35 mm
6 = Ø40 mm
For pin Ø outside the mentioned range, please contact our sales department
- 6** LOCATING PIN
0 = Locating pin not included
1 = Locating pin included
- 7** PROGRESSIVE NUMBERING
Progressive numbers for special products are assigned by the Sales Department
- 8** SENSOR
N = No sensor (with protection plate)
K = Electronic sensor PNP, M12 (DF-K)
J = Electronic sensor NPN, optical (DF-J)
Y = Electronic sensor PNP, M12 (DF-Y) white LED
- 9** PRODUCT REVISION
Assigned by UNIVER
- 10** ATEX
X = ATEX option
See ATEX Catalogue for types and versions

6



X = Metal sheet
 Y = Clamping range (X + 2,3 mm Max.)
 VERSION WITHOUT PIN AND HOOK AVAILABLE UPON REQUEST
 ** MISSING DIMENSION TO BE DEFINED ACCORDING TO CUSTOMER SPECIFICATIONS
 *** TOLERANCE BETWEEN DOWEL HOLES ± 0,02, BETWEEN SCREW HOLES ± 0,1

*Pin Option	ØD
1	18
2	20
3	25
4	30
5	35
6	40

Sensors

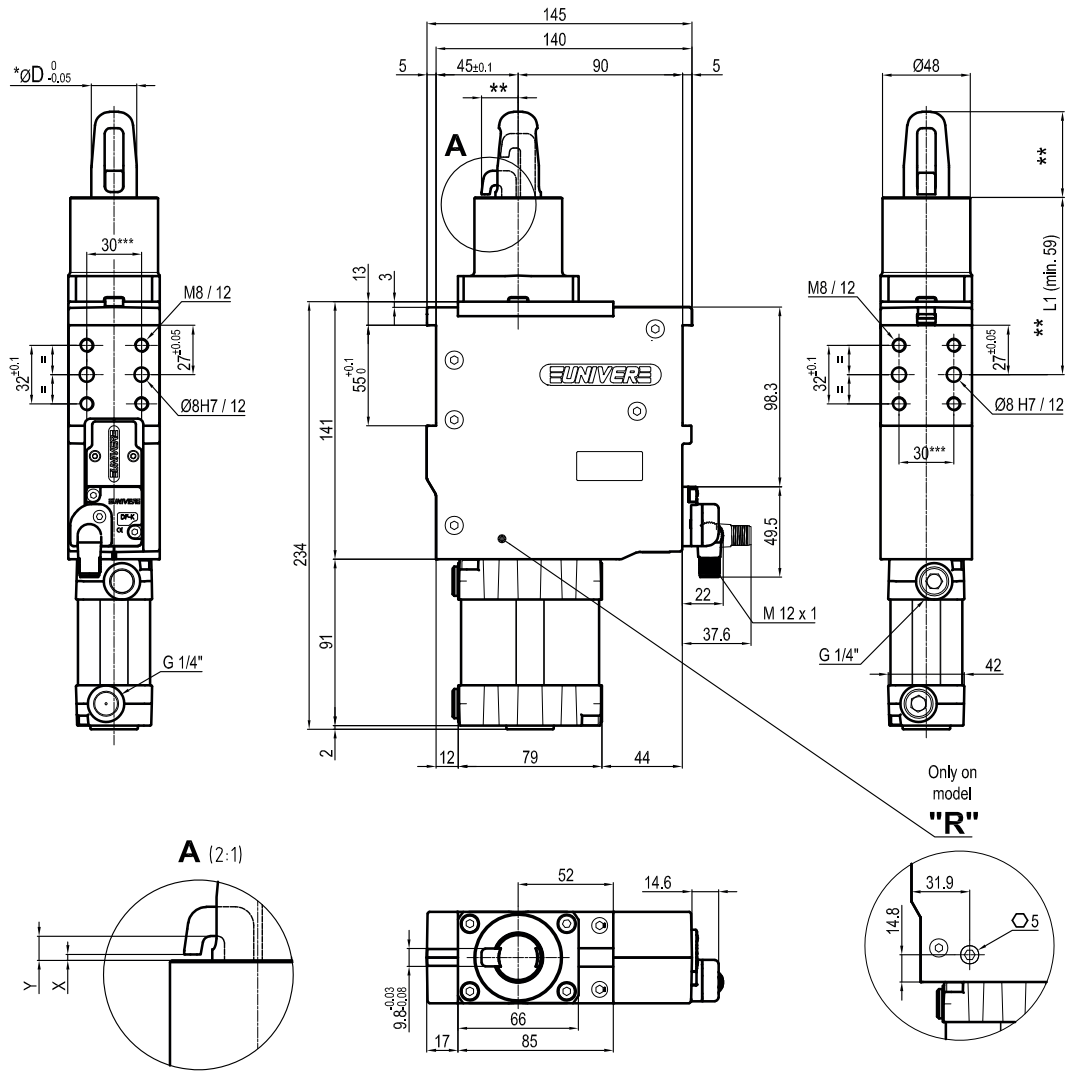


Electronic (optical)

- DF-K PNP M12
- DF-J NPN M12
- DF-Y PNP M12 White LED

6

Version with plate machined from solid (no shimming)



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